



WYOMING LEGISLATIVE SERVICE OFFICE

Memorandum

DATE April 21, 2023

TO Joint Minerals, Business, and Economic Development Interim Committee

FROM Brian Fuller, Senior Staff Attorney

SUBJECT Topic Summary: Carbon Capture Federal Tax Credit (45Q Credit)

This summary provides background information on the federal tax credit available for the sequestration of carbon dioxide—commonly known as the "45Q tax credit" based on its provision in the Internal Revenue Code. This summary also includes information about amendments to the 45Q tax credit made in the federal Inflation Reduction Act of 2022.

Approved Interim Topic

Priority #2: Carbon Dioxide and Carbon Capture, Utilization, and Sequestration.

The Committee will study issues concerning carbon dioxide and carbon capture, utilization, and sequestration technology, including unitization issues, fees and revenue from the sequestration of carbon dioxide, and carbon capture technology use at electric-generation facilities.

45Q Tax Credit: Creation (2008 through 2017)

Congress initially enacted the 45Q tax credit in 2008.¹ At first, a carbon dioxide sequestration credit for a taxable year was equal to \$20 per metric ton of qualified carbon dioxide that was captured at a qualified facility and disposed in secure geological storage.² If the qualified carbon dioxide was captured at a qualified facility and used by the taxpayer "as a tertiary injectant in a qualified enhanced oil or natural gas recovery

¹ Pub. L. No. 110-343, § 115 (2008), available at govinfo.gov (last visited April 18, 2023).

² 26 U.S.C. § 45Q(a)(1) (2008).

project," the credit was only \$10 per metric ton of qualified carbon dioxide.³ Beginning in tax years after 2009, the 45Q tax credit amount was tied to an inflationary adjustment in the Internal Revenue Code.⁴

The 45Q tax credit provided definitions for qualified carbon dioxide and qualified sequestration facilities. "Qualified carbon dioxide" was defined as carbon dioxide that was captured from an industrial source and that: (1) would otherwise be released into the atmosphere as an industrial emission; and (2) was measured at the source of capture and verified at the point of disposal or injection.⁵ Carbon dioxide that was recaptured, recycled, and reinjected as part of enhanced oil and gas recovery was not considered to be qualified carbon dioxide.⁶ In 2008, a "qualified facility" for purposes of the 45Q tax credit meant any industrial facility: (1) that was owned by the taxpayer; (2) at which carbon capture equipment was placed into service; and (3) that captured not less than 500,000 metric tons of carbon dioxide during the taxable year.⁷

Initially, the 45Q tax credit only applied to qualified carbon dioxide that was captured or disposed of in the United States or its possessions.⁸ The credit was attributable to the person that captured and physically or contractually ensured the disposal of the qualified carbon dioxide (or that uses the qualified carbon dioxide in enhanced oil and gas recovery), subject to rules that the Secretary of the Treasury promulgated.⁹ There was a cap on the availability of the 45Q tax credit, which was set at 75,000,000 metric tons of qualified carbon dioxide that was captured.¹⁰

45Q Tax Credit: Expansion (2018 through 2021)

In 2018, Congress amended the 45Q tax credit in the Bipartisan Budget Act of 2018.¹¹ The 2018 amendments to the 45Q tax credit, among other things:

- Expanded the qualifying product to cover "carbon oxide," which was defined to include: (1) carbon dioxide captured from an industrial source by carbon capture equipment placed into service after the Bipartisan Budget Act that otherwise

³ 26 U.S.C. § 45Q(a)(2) (2008).

⁴ 26 U.S.C. § 45Q(d)(7) (2008).

⁵ 26 U.S.C. § 45Q(b)(1) (2008).

⁶ 26 U.S.C. § 45Q(b)(2) (2008).

⁷ 26 U.S.C. § 45Q(c) (2008).

⁸ 26 U.S.C. § 45Q(d)(1) (2008).

⁹ 26 U.S.C. § 45Q(d)(5) (2008).

¹⁰ 26 U.S.C. § 45Q(e).

¹¹ Pub. L. No. 115-123, § 41119 (2018).

would be released as an industrial emission and is measured at the source of capture and verified at the point of disposal, injection, or utilization; and (2) carbon dioxide that is captured directly from the ambient air and is measured at the source of capture and verified at the point of disposal, injection, or utilization.¹²

- Amended the definition of "qualified facility" to include a direct-air carbon-capture facility but required the industrial facility or direct-air facility to be one where construction commenced before January 1, 2024.
- Lowered the amount of carbon dioxide required to be captured to qualify for the 45Q tax credit, depending on the type of facility.¹³
- Expanded the eligibility of the 45Q tax credit to include carbon capture through photosynthesis or chemosynthesis (i.e., through algae or bacteria or chemical conversion).¹⁴
- Instead of an aggregate cap, the 45Q tax credit was made available to any qualifying taxpayer for 12 years after the taxpayer began using carbon-capture equipment.¹⁵
- Authorized the owners of carbon capture equipment to claim the 45Q tax credit (instead of the person or entity actually capturing the carbon dioxide).¹⁶
- Amended the amount of the 45Q tax credit each year until 2026, starting with \$22.66 per metric ton in 2017 up to \$50 per metric ton in 2026 (for sequestered carbon dioxide). For carbon dioxide captured and used in enhanced oil recovery, the credit was amended to \$12.23 per metric ton in 2017 up to \$35 per metric ton in 2026. The credit would be adjusted annually for inflation after 2026.¹⁷

In 2020, Congress amended the date by which qualified facilities were required to start construction on carbon-capture equipment to be eligible for the 45Q tax credit from January 1, 2024 to January 1, 2026.¹⁸

¹² 26 U.S.C. § 45Q(c) (2018), available at [congress.gov](https://www.congress.gov) (last visited April 18, 2023).

¹³ 26 U.S.C. § 45Q(d) (2018). If the facility emits up to 500,000 metric tons of carbon dioxide in a tax year, then at least 25,000 metric tons must be captured in that year. If the facility is a direct-air facility, then at least 100,000 metric tons must be captured in the tax year. For electric generation facilities, at least 500,000 metric tons of carbon dioxide must be captured during the tax year. *Id.*

¹⁴ 26 U.S.C. § 45Q(f)(5) (2018).

¹⁵ 26 U.S.C. § 45Q(a)(4) (2018).

¹⁶ 26 U.S.C. § 45Q(f)(3) (2018).

¹⁷ 26 U.S.C. § 45Q(d)(7) (2018).

¹⁸ Pub. L. No. 116-260, § 121 (2020).

45Q Tax Credit: Current Law After Inflation Reduction Act of 2022

Congress again amended the 45Q tax credit in the Inflation Reduction Act of 2022. Among other changes to the 45Q tax credit, Congress:

- Increased the amount of the 45Q tax credit to: (1) up to \$85 per metric ton for storing carbon dioxide captured from industrial and electric generation facilities; (2) up to \$60 per metric ton for utilizing carbon dioxide in enhanced oil recovery; (3) up to \$180 per metric ton for storing carbon dioxide captured through a direct-air method; and (4) up to \$130 per metric ton for carbon dioxide captured through a direct-air method and utilized in enhanced oil recovery.¹⁹ The annual inflationary adjustment for tax years 2027 and beyond will be indexed to 2025 as the base year.²⁰
- Reduced the carbon-capture threshold for facilities to qualify for the 45Q tax credit, which now ranges from 1,000 metric tons to 18,750 metric tons.²¹
- Extended the deadline for the commencement of construction of carbon-capture equipment to qualify for the 45Q tax credit to January 1, 2033.²²
- Authorized the transfer of the 45Q tax credit's value to any taxpaying entity in exchange for a cash payment during any part of the 12-year window; the cash payment received is not taxable.²³
- Required that persons employed for the construction or maintenance of carbon-capture equipment at qualified facilities be paid at prevailing rates for construction, alteration, or repair of a similar character in the applicable locality.²⁴ This wage requirement applies if a taxpayer seeks the increased credit amount as authorized in the Inflation Reduction Act.²⁵

¹⁹ 26 U.S.C. § 45Q(b) & (h); Pub. L. No. 117-169 (2022).

²⁰ 26 U.S.C. § 45Q(b)(1)(A)(ii).

²¹ 26 U.S.C. § 45Q(d)(2). For direct-air facilities, the capture requirement is now 1,000 metric tons of qualified carbon oxide in a taxable year. For an electric-generation facility, the capture requirement is now 18,750 metric tons per year, provided that the carbon-capture equipment for any unit has a capture design capacity of at least 75% of the baseline carbon oxide production of the unit. For all other facilities, the annual capture requirement is now 12,500 metric tons. *Id.*

²² 26 U.S.C. § 45Q(d)(1).

²³ 26 U.S.C. § 45Q(f)(9).

²⁴ 26 U.S.C. § 45Q(h)(3); 40 U.S.C. § 3141.

²⁵ 26 U.S.C. § 45Q(h)(3).

- Made the 45Q tax credit a fully refundable credit (meaning that the credit could be made as a direct payment to the taxpayer as if it were an overpayment of taxes).²⁶ The direct payment applies to carbon dioxide captured using carbon-capture equipment originally placed in service after December 31, 2022.²⁷ The direct-payment option is available to for-profit entities for only 5 of the 12 years available for the credit; for non-profit and governmental entities, the direct-payment option is available for all 12 years of the 45Q tax credit.²⁸

Conclusion

This summary provides a broad overview of the federal 45Q tax credit available for carbon dioxide sequestration and utilization. Please let me know if you have any questions.

²⁶ 26 U.S.C. § 6417.

²⁷ 26 U.S.C. § 6417(b)(3).

²⁸ 26 U.S.C. § 6417(d)(2)(C).